APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,657	10/17/2003	Qiang Luo	89038PCW	1222

1333 7590 07/24/2008	EXAMINER
EASTMAN KODAK COMPANY	HENN, TIMOTHY J
PATENT LEGAL STAFF	
343 STATE STREET	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _06 May 2008_.
2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,3-8,10-15 and 17-25_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1,3-8,10-15,17-20,22 and 24_ is/are rejected.
7)☒ Claim(s) _21,23 and 25_ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _17 October 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
       1.☐ Certified copies of the priority documents have been received.
       2.☐ Certified copies of the priority documents have been received in Application No. _____.
       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
          application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail. Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 06 May 2008 have been fully considered but they are

not persuasive. Applicant has amended claims 1, 8 and 15 to recite that the crosstalk is

corrected using crosstalk coefficients based on a number of times the color is included

in a group of adjacent pixels immediately surrounding the first pixel, and argues that

Olding does not teach or suggest this limitation. However, the system of Olding uses

actual sensor data which reflects how the imaging system distorts a test image in the

image capturing process (c. 7, ll. 40-57). From this data, coefficients are determined to

correct for distortions such as electrical crosstalk (e.g. Figure 3). Since the actual

sensor data for a pixel is affected by the surrounding pixels (e.g. the number of times a

color is included in the surrounding pixels will change the resulting image signal for the

pixel due to crosstalk between the pixels), the system of Olding does correct the

crosstalk "based on a number of times the color is included in the group of adjacent

pixels" as claimed. Since claims 1, 8 and 15 do not define how the number of times the

color is included in the surrounding group is factored into the crosstalk correction,

Olding meets the limitations as claimed.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

        A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1, 3-8, 10-15, 17-20, 22 and 24 are rejected under 35 U.S.C. 102(e) as

being anticipated by Olding et al. (US 6,970,597).

[claim 8]

Regarding claim 8, Olding discloses an apparatus for reducing charge diffusion

crosstalk (i.e. electrical crosstalk) in an image sensor having a plurality of pixels

disposed in a substrate and a color filter mask positioned over the plurality of pixels

such that each pixel is covered with a monochromatic filter of a certain color and that no

two adjacent pixels have filters of the same color (Figure 1, Item 10), comprising: means

for inputting crosstalk coefficients for a first pixel of a first color for reducing diffusion

crosstalk by electronics migrating to the first pixel from adjacent pixels of colors that are

different from the first color (Figure 6, Step 708; c. 13, l. 25 - c. 14, l. 19; note that the

kernels are designed to reduce all imaging artifacts, including electrical crosstalk, c. 7, ll.

41-57; c. 25, ll. 51-60); means for sampling the first pixel to produce a first measured

pixel value (Figure 6, Item 722; i.e. reading image sensor data; c. 13, ll. 25-41); means

for sampling a group of adjacent pixels immediately surrounding the first pixel to

produce adjacent measured pixel values (Figure 6, Item 722; i.e. reading image sensor

data; c. 13, ll. 25-41); and means for applying the crosstalk coefficients to the first

measured pixel value and the adjacent measured pixel values to generate a calculated

first pixel value that is corrected for charge diffusion crosstalk (Figure 6; c. 13, l. 25 - c.

14, l. 19), wherein each diffusion crosstalk coefficient corrects for an amount of

crosstalk between the first pixel and the one or more pixels in the group of adjacent

pixels that have the same color based on a number of times the color is included in the

group of adjacent pixels immediately surrounding the first pixel (Figure 3; note that the

applied coefficients are derived from actual sensor data, the values of which are

affected by the number of times pixels of a same color is included in the group of pixels

immediately surrounding a first pixel as claimed).

[claim 10]

Regarding claim 10, Olding discloses a group of adjacent pixels of different

colors are of two colors that are different from the first color (e.g. Figure 8, note the

presence of B and G pixels in the Red pixel neighborhood).

[claim 11]

Regarding claim 11, Olding discloses applying color correction coefficients to the

first measured pixel value and the adjacent pixel values such that the first pixel color

filter spectral response is improved in the first measured pixel value (Figure 6, Step 708;

c. 13, l. 25 - c. 14, l. 19; note that the kernels are designed to reduce all imaging

artifacts, including distortion caused by the color filter pattern, c. 7, ll. 41-57; c. 25, ll. 51-

60).

[claim 12]

Regarding claim 12, Olding discloses a combining the crosstalk coefficients and

color correction coefficients (i.e. the same coefficients are used to accomplish both;

Figure 6, convolution kernels).

[claim 13]

Regarding claim 13, Olding discloses combining the crosstalk coefficients and

color correction coefficients before applying the coefficients to the first measured pixel

value (Figure 6; note that the coefficients are determined and stored prior to their

application).

[claim 14]

Regarding claim 14, note that Olding does not disclose the use of any multiplier

means or adder means in use of the coefficients, instead a single processing device is

used to multiply and add (c. 13, ll. 26-67).

[claims 1 and 3-7]

Claims 1 and 3-7 are method claims corresponding to apparatus claims 8 and

10-14. Therefore, claims 1 and 3-7 are analyzed and rejected as previously discussed

with respect to claims 8 and 10-14.

[claims 15 and 17-19]

Regarding claims 15 and 17-19, see claims 8, 10, 11 and 14 respectively.

[claims 20, 22 and 24]

Regarding claims 20, 22 and 24, Olding discloses monochromatic filters

comprising red, green and blue color filters (Figure 1, Item 10).

Allowable Subject Matter

4.   Claims 21, 23 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

[claims 21, 23 and 25]

        Regarding claims 21, 23 and 25 the prior art does not teach or fairly suggest applying crosstalk coefficients as defined by the claimed equation. While crosstalk coefficients in the form of a matrix are known (see for example, Olding), these crosstalk coefficients are not defined in the claimed manner.

                                              Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571)272-7310. The examiner can normally be reached on M-F 11-7.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Timothy J Henn/
Primary Examiner, Art Unit 2622